

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>AMG177WO</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/008399</b>	International filing date (day/month/year) <b>21.07.2004</b>	Priority date (day/month/year) <b>22.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C08L61/28, C08L61/S2, C08L97/02, B27N1/02, C08L31/04, C08J5/04, B29C47/00</b>		
Applicant <b>AMI AGROLINZ MELAMINE INTERNATIONAL GMBH</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 5 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/008399

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-38 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-21 \_\_\_\_\_ received by this Authority on 29.07.2005 with letter of 28.07.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets 1/2-2/2 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/008399

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	12-20	YES
	Claims	1-11, 21	NO
Inventive step (IS)	Claims	12-20	YES
	Claims	1-11, 21	NO
Industrial applicability (IA)	Claims	1-21	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1. This report makes reference to the following documents, in particular to their <b>passages</b> listed in the search report:			
D1: EP-A-1 247 837 (AGROLINZ MELAMIN GMBH), 9 October 2002 (2002-10-09)			
D2: WO 03/046053 A (AGROLINZ MELAMIN GMBH; RAETZSCH, MANFRED; BUCKA, HARTMUT; DICKE, RENE), 5 June 2003 (2003-06-05)			
D3: WO 03/106558 A (AGROLINZ MELAMIN GMBH; RAETZSCH, MANFRED; MACHHERNDL, MARKUS; BREITENE), 24 December 2003 (2003-12-24)			
D4: WO 01/85847 A (AGROLINZ MELAMIN GMBH; RAETZSCH, MANFRED; BUCKA, HARTMUT), 15 November 2001 (2001-11-15)			
D5: WO 03/106524 A (AGROLINZ MELAMIN GMBH; BUCKA HARTMUT (AT); BURGER MARTIN (AT); RAETZS), 24 December 2003 (2003-12-24)			
2. Novelty (PCT Article 33(2))			
The present application does not meet the requirements of PCT Article 33(1) because the			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

subject matter of independent claims 1 and 21 is not novel (PCT Article 33(2)).

- 2.1 D1 discloses (the references in parentheses are to that document) modified aminoplastic resins for producing semifinished products and moulding compounds, the modified aminoplastic resins comprising (A) 50-95% by weight aminoplastic precondensates of the melamine resin type with a molar mass, and (B) 50-5% by weight thermoplastic polymers finely dispersed in the aminoplastic precondensates or homogeneously blended therewith (claim 1). The melamine resins constitute, for example, polycondensates of melamine and C<sub>1</sub>-C<sub>10</sub> aldehydes (preferably formaldehyde) with a melamine/aldehyde molar ratio ranging from 1:1 to 1:6, as well as their partial etherification products with C<sub>1</sub>-C<sub>10</sub> alcohols (claim 2). Hardeners may be used (column 10, lines 47-49; paragraph 45; example 9; claim 8), as well as wood flour as filler (paragraph 67).

Claim 1 is novel over D1 because D1 does not disclose the wood proportion. The three-stage process according to the present claim 12 is also novel over D1.

- 2.2 D2 discloses products, in particular moulding compounds, made of polymers which contain triazine segments and constitute mixtures of meltable 4-18 membered ring oligotriazine ethers based on triazine ethers (claim 1).

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

As product, both an end product and a moulding compound which serves as an intermediate product are meant (page 1, paragraph 3).

The products contain up to 75% by weight fillers or reinforcing fibres, such as wood flour and wood fibres (claims 8, 19, 20, 21, 29; pages 6, 7). The products can be **completely hardened** (see claim 29 on page 51, line 10). Cross-linked polymers are thus found in the product according to D2. Reactive polymers such as partially saponified ethylene-vinyl acetate copolymers can be contained in moulding compounds (page 7; claim 8). The polymers according to D2 are apparently free from -NH-CH<sub>2</sub>-O-CH<sub>2</sub>-NH- groups (claims 1, 2).

The subject matter of claims 1 and 21 is therefore not novel over D2. Dependent claims 2-11 are also not novel over D2.

- 2.3 **D4** discloses moulding compounds made of wood particles and thermosetting prepolymers, the moulding compounds being produced by a multi-stage, reactive compounding process from (a) 65-95% by weight modified wood particles, (b) 5-34.5% by weight prepolymers of melamine resins, (c) 0.5-10% by weight water-soluble, water-dispersible and/or water-emulsifiable polymers, (d) if necessary, 0.5-15% by weight fillers and/or reinforcing materials, and 0.1-1% by weight processing aids. In the first stage (A), wood

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

particles are modified by impregnation with water-soluble, water-dispersible and/or water-emulsifiable polymers and if necessary melamine resin and/or urea resin prepolymers, then dried. In the second stage (B), the wood particles modified during the first stage are subjected to a treatment with ammonia gas. In the third stage (C), the wood particles modified in the second stage are homogenised, reacted, degasified in a vacuum with the melamine resin prepolymers in a continuous kneader, if necessary with the admixture of fillers and reinforcing materials, as well as processing aids, and the reaction product is discharged and granulated (claim 1).

The melamine resin prepolymers can be prepolymers of melamine-formaldehyde resins (claim 3) in which 0.5-50% by mole of the methylol groups in the prepolymer may be etherified by reaction with C<sub>1</sub>-C<sub>4</sub> aliphatic alcohols, polyalkylene oxides and/or C<sub>5</sub>-C<sub>12</sub> (meth)acrylic acid hydroxyalkyl esters. The above-mentioned thermoplastic resins can be ethylene-vinyl acetate copolymers (claim 6). The moulding compounds are used to produce extruded semifinished products or moulding compounds for use in the building or furniture industry (claim 10).

**Hardening accelerators** may be added to the moulding compounds before extrusion (page 9, paragraph 2). However, it is not clear from D4 whether the melamine resins are cross-linked. The

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/008399

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>subject matter of claims 1 and 21 is therefore novel over D4.</p>
2.4	<p>The subject matter of independent claims 12 and 17 appears to be novel over all the above-mentioned documents D1, D2 and D4.</p>
3.	<p>Inventive step (PCT Article 33(3))</p>
3.1	<p>The technical effect of the present application is a composite material which contains plastics and wood and can be produced by a thermoplastic process (page 2, paragraph 1).</p>
3.2	<p>Dependent claims 2-11 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty and inventive step requirements; see D2 and the corresponding passages cited in the search report.</p>
3.3	<p>The process as per claim 12 is neither known from nor suggested by the available prior art. The same is true of the process as per claim 17.</p>
	<p>Claims 13-16 and 18-20 are dependent on claims 12 and 17, respectively, and therefore also meet the PCT novelty and inventive step requirements.</p>

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/008399

## Box No. VI Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 03/106558 (D3)	24.12.2003	12.06.2003	14.06.2002
WO 03/106524 (D5)	24.12.2003	12.06.2003	14.06.2002

## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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It is pointed out that the International Preliminary Examining Authority has not examined the validity of the claimed priority of the present application.



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/008399

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

5. Contrary to PCT Rule 5.1(a)(ii), the description does not cite document D2 or indicate the relevant prior art disclosed therein.